

KUBOTA CORPORATION

EXECUTIVE ORDER U-R-025-0182 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2005	5KBXL01.3BCD	0.898, 1.001, 1.335	Diesel	5000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
	Indirect Diesel Inj	ection	Loader, Other Industrial Equipment			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER	EMISSION STANDARD		EXHAUST (g/kW-hr)					OPACITY (%)		
CLASS	CATEGORY		нс	NOx	NMHC+NOx	co	РМ	ACCEL	LUG	PEAK
8 <u>≤</u> kW < 19	Tier 2	STD	N/A	N/A	7.5	6.6	0.80	20	15	50
19 ≤ kW < 37	Tier 2	STD	N/A	N/A	7.5	5.5	0.60	20	15	50
		CERT			4.4	1.4	0.36	7	5	12

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this

__ day of October 2004.

Allen Lyons, Chief

Mobile Source Operations Division

Engine Model S mary Form

Manufacturer: KUBOTA Corporation

Engine category: Nonroad Cl

EPA Engine Famiy 5KBXL01.3BCD

Mfr Family Name: N/A

Process Code: New Submission

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9.Emission Control Device Per SAE J193	AN HOL	A/A	₹ /₹	MA	N/A	N/A	N/A	N/A	T ###
8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930	9.5	9.0	11.1	12.3	9.3	9.1	8.2	8.9	11.0
7.Fuel Rate: mm/stroke@peak torque	21.9	20.6	22.6	21.2	21.8	21.5	21.5	19.8	22.3
6.Torque @ RPM (SEA Gross)	44.7@2600	42.3@2600	61.0@2200	60.0@2600	59.5@1900	59.7@1900	60.0@1700	54.4@2000	58.6@2200
5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	12.5	11.7	13.7	16.1	11.5	10.9	10.6	11.1	13.1
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	20.7	19.4	20.5	20.0	19.0	18.7	18.2	19.8	21.0
3.BHP@RPM (SAE Gross)	27.4@3600	25.9@3600	30.8@3000	2 1336.5@3600	27.2@2700	25.9@2600	7. 25.2@2600	25.3@2500	28.8@2800
2.Engine Model	D1005-ES	D905-ES	V1305-ES	V1305-ES 2	V1305-ES	V1305-ES	V1305-ES	V1305-ES	V1305-ES
1.Engine Code	D1005-ES01	D905-ES01	V1305-ES01	V1305-ES02	V1305-ES03	V1305-ES04	V1305-ES05	V1305-ES06	V1305-ES07